REMARKS

The Office Action dated October 23, 2003 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-8 and 10-13 are amended to more particularly point out and distinctly claim the subject matter of the invention. New claims 14-45 are submitted. Support for the amendments may be found throughout the specification, for example, on page 7, lines 2 and 36, on page 9, and on page 10. No new matter has been added. Claims 1-8 and 10-45 are respectfully submitted for consideration.

As a preliminary matter, the Office Action indicated that claims 3, 4, 8 and 11 are allowed. Applicants wish to thank the Examiner for this indication of allowed subject matter.

DRAWINGS

Pursuant to the Office Action's request for submission of formal drawings, Applicants have submitted replacement drawings which incorporate the proposed drawing amendments filed on March 12, 2002.

CLAIM REJECTIONS UNDER 35 USC § 102

Claim 12 was rejected under 35 U.S.C. 102(e) as being anticipated by *Wheatley et al.* (U.S. Patent No. 5,383,219). The Office Action took the position that *Wheatley* teaches all of the limitations of the claimed invention. Applicants respectfully submit that the prior art cited in the Office Action fails to disclose the features of claim 12.

Claim 12 recites a base station for operation in a digital radio link in a system where a base station and a personal station are parties to a radio connection. During operation, the base station is arranged to control the transmission power of the personal station by sending a power control command. The base station is further arranged to identify a change in data transfer of the personal station and change, in response to the change in the data transfer, the manner in which the power control commands are to be sent to the personal station to be in accordance with the changed data transfer.

Thus, one advantage of the claimed invention is that as the manner in which the power control commands are transmitted is changed to be in accordance with the change in data transfer, the need for resources for transmitting the power control commands also change. This means, for example, when the power control commands are sent less frequently or with less energy or the power control commands have shorter length in time, the amount of resources needed for the power control commands is less. It is respectfully submitted that the prior art fails to disclose the elements of claim 12. Therefore, the prior art fails to provide the critical and unobvious advantages discussed above.

Wheatley relates to a power control process that enables a mobile radiotelephone to continuously update the base station on the power output required. The base station sends a frame to the mobile station at a particular rate. If the mobile station receivs and decodes the frame correctly, the mobile station sets a power control bit in the next frame to be transmitted to the base station. Based on the error rate of the received power

control bits, the base station determines whether to increase or decrease the transmit power. *Wheatley* also describes that the transmission of the power control commands occurs in every frame (*Wheatley,* column 3, lines 48-52 and column 9, lines 2-13 and column 9, lines 25-31). In column 4, lines 25-31, *Wheatley* states a variable data rate communication link, but the variable rate merely refers to using different convolution coding techniques with a fixed output rate. *Wheatley* thus describes a communication link, where transmission power commands are sent in every frame. However, the data rate of the communication does not affect the manner in which power control commands are sent. Thus, in comparison, to claim 12 of the present invention, *Wheatley* does not teach or suggest, at least, in response to a change in data transfer, changing the manner in which power control commands are to be sent.

In view of the above, Applicants respectfully submit that claim 12 is not anticipated by *Wheatley*, and respectfully request that the Examiner withdraw the anticipation rejection.

CLAIM REJECTIONS UNDER 35 USC § 103

Claims 1, 2 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Behtash et al.* (U.S. Patent No. 5,745,480) in view of *Gilhousen et al.* (U.S. Patent No. 5,603,096). The Office Action took the position that *Behtash* discloses all of the elements of the claimed invention with the exception of "changes the power control command to be sent to the first party to be in accordance with the new transmission rate." *Gilhousen* was cited as curing the deficiencies in *Behtash*, and the Office Action took the

position that it would have been obvious to a person of ordinary skill in the art to combine *Behtash* and *Gilhousen* to yield the claimed invention. Applicants respectfully submit that the presently pending claims recite subject matter that is neither disclosed nor suggested in the cited prior art.

Claim 1, upon which claims 2, 5-7 and 10 are dependent, recites a method of controlling the transmission power used in a digital radio link in a system where a base station and a personal station are parties to a radio connection and during operation between them either party may send a power control command, which will change the transmission power of the other party. The method comprises identifying a change in data transfer of the first party by the second party. In response to the change in the data transfer, changing a manner in which the power control commands are to be sent to the first party by the second party to be in accordance with the changed data transfer.

Claim 13 recites a personal station for operation in a digital radio link in a system where a base station and a personal station are parties to a radio connection and during operation the personal station is arranged to control the transmission power of the base station by sending a power control command. The personal station is further arranged to identify a change in data transfer of the base station and change, in response to the change in the data transfer, the manner in which the power control commands are to be sent to the base station to be in accordance with the changed data transfer.

Behtash relates to a multi-rate wireless communication system wherein the system controller "negotiates" the data rate. As shown in Figure 4 and discussed in column 5, lines 16-43, during the negotiation process the base station sends a reply to the service request previously sent by the requesting user terminal in step 204. The reply indicates an offered data rate. The user terminal determines if the offered rate is acceptable. If the offer is accepted, a connection is established. If the offer is not accepted, the connection is not established. When the user terminal wishes to re-negotiate with the base station, the user terminal initiates the whole "negotiation" process again.

However, the claims of the present invention are directed to an apparatus and a method of controlling transmission power using power control commands. According to the claimed method, a change in the data transfer of a first party is identified by a second party. In response to the identified change in the data transfer, the manner in which power control commands are to be sent to the first party from the second party is changed. A change in the data transfer in one direction thus affects the manner in which power commands are transmitted in the opposite direction. Thus, in comparison to claims of the present invention, Applicants submit that *Behtash* fails to disclose or suggest, at least, the steps of identifying a change in data transfer and in response to the change in the data transfer, changing the manner in which power control commands are to be sent.

Gilhousen relates to a reverse link, closed loop power control in a code division multiple access system. A mobile transmits a frame to the base station. The base station

measures the signal to noise ratio (SNR) of the signal from the mobile and compares that SNR with the SNR threshold values the base station has stored for each data rate the mobile is capable of transmitting. The base station then generates power control commands to instruct the mobile to change its power depending on the comparison to the SNR threshold.

The Office Action cites *Gilhousen* for curing the deficiencies of *Behtash*. However, Applicants respectfully submit that *Gilhousen* fails to cure the deficiencies that exist in *Behtash*. Neither *Behtash* nor *Gilhousen* disclose or suggest, at least, the steps of identifying a change in data transfer and, in response to the change in the data transfer, changing the manner in which power control commands are to be sent, as recited in claims 1 and 13.

In view of the above, Applicants respectfully submit that claims 1, 2 and 13 recite subject matter that is neither disclosed nor suggested in the combination *Behtash* and *Gilhousen*.

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Behtash* in view of *Gilhousen* in view of *Padovani et al.* (U.S. Patent No. 5,396,516). The Office Action took the position that *Behtash* and *Gilhousen* disclose all of the elements of the claimed invention with the exception of "when the transmission rate of the first party is decreased, the second party will lower the energy of power control commands to be sent to the first party and, correspondingly, when the transmission rate of the first party is increased, the second party will increase the energy of power control commands", as

recited in claim 5. *Padovani* was cited as curing the deficiencies in *Behtash* and *Gilhousen*, and the Office Action took the position that it would have been obvious to a person of ordinary skill in the art to combine *Behtash, Gilhousen* and *Padovani* to yield the claimed invention. Applicants respectfully submit that claim 5 recites subject matter that is neither disclosed nor suggested in the cited prior art.

Padovani relates to a method and system for dynamic modification of control parameters in a transmitter power control system. In *Padovani*, a power up/down command generator receives a deviation signal and generates either a power up command or a power down command, which a base station transmits to a mobile station. Should the signal from a power averager circuit fall below a threshold, the deviation signal generated by a comparator generates a power up command. Similarly, should the power averager circuit signal exceed a power level, a power down command is generated.

The Office Action cites *Padovani* for curing the deficiencies of *Behtash* and *Gilhousen*. However, Applicants respectfully submit that *Padovani* fails to cure the deficiencies which exist in *Behtash* and *Gilhousen*. Claim 5 is directed to increasing and decreasing the transmission rate of the first party. Applicants respectfully submit that claim 5 depends from claim 1 and therefore is allowable at least for the reasons that claim 1 is allowable and for the specific recitations therein. Applicants respectfully submit that *Behtash, Gilhousen* and *Padovani*, taken in combination or alone, do not disclose or suggest, at least, the steps of identifying a change in data transfer and in response to the

change in the data transfer, changing the manner in which power control commands are to be sent, as recited in claim 1.

In view of the above, Applicants respectfully submit that claim 5 recites subject matter which is neither disclosed nor suggested in the combination *Behtash, Gilhousen* and *Padovani*.

Claims 6 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Behtash* in view of *Gilhousen* in view of *Li* (U.S. Patent No. 5,537,410). The Office Action took the position that *Behtash* and *Gilhousen* disclose all of the elements of the claimed invention with the exception of "the change in transmission rate of the first party is declared in a field of a transmission frame reserved for this purpose", as recited in claim 6 and "the change of transmission rate of the first party is declared by changing a structure of a transmission frame directly to correspond with the new transfer rate", as recited in claim 7. *Li* was cited as curing the deficiencies in *Behtash* and *Gilhousen*, and the Office Action took the position that it would have been obvious to a person of ordinary skill in the art to combine *Behtash, Gilhousen* and *Li* to yield the claimed invention. Applicants respectfully submit that the presently pending claims recite subject matter that is neither disclosed nor suggested in the cited prior art.

Li relates to a subsequent frame variable data rate indication method. In a synchronous fixed frame boundary system with variable data rates, a transmitter inserts into a current frame an indication of the data rate of the next frame. After the first frame

is received and processed at the receiver, the data rates of subsequent frames are known before processing, thereby reducing processing load.

The Office Action cites *Li* for curing the deficiencies of *Behtash* and *Gilhousen*. However, Applicants respectfully submit that *Li* fails to cure the deficiencies that exist in *Behtash* and *Gilhousen*.

Claim 6 is directed to the change in the data transfer of the first party is declared in a field of a transmission frame reserved for this purpose, and claim 7 is directed to the change in the data transfer of the first party is declared by changing a structure of a transmission frame directly to correspond with the changed data transfer. Applicants respectfully submit that claims 6 and 7 depend from claim 1, and therefore are allowable at least for the reasons claim 1 is allowable and for the specific recitations therein. Applicants respectfully submit that *Behtash, Gilhousen* and *Li*, taken in combination or alone, do not disclose or suggest, at least, the steps of identifying a change in data transfer and in response to the change in the data transfer, changing the manner in which power control commands are to be sent, as recited in claim 1.

In view of the above, Applicants respectfully submit that claims 6 and 7 recite subject matter that is neither disclosed nor suggested in the combination *Behtash, Gilhousen* and *Li*.

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Behtash* in view of *Gilhousen* in view of *Love et al.* (U.S. Patent No. 5,745,520). The Office Action took the position that *Behtash* and *Gilhousen* disclose all of the elements of

the claimed invention with the exception of "the power control command change in step size" as recited in claim 10. *Love* was cited as curing the deficiencies in *Behtash* and *Gilhousen*, and the Office Action took the position that it would have been obvious to a person of ordinary skill in the art to combine *Behtash, Gilhousen* and *Love* to yield the claimed invention. Applicants respectfully submit that the presently pending claims recite subject matter which is neither disclosed nor suggested in the cited prior art.

Love relates to a method and apparatus for power control in a spread spectrum communication system using threshold step-down size adjustment. In *Love*, power control in a spread-spectrum communication system takes place by dynamically adjusting the step-down size of a power control threshold based on an acquired number of poor quality frames. The step-down size of the threshold is increased or decreased depending on the amount of frame erasures detected by the system.

The Office Action cites *Love* for curing the deficiencies of *Behtash* and *Gilhousen*. However, Applicants respectfully submit that *Love* fails to cure the deficiencies which exist in *Behtash* and *Gilhousen*. Claim 10 is directed to when the manner in which the power control commands are to be sent changes, a size of the transmitter's power control step is also changed. Applicants submit that claim 10 depends from claim 1, and therefore is allowable at least for the reasons claim 1 is allowable and for the specific recitations therein. Applicants respectfully submit that *Behtash, Gilhousen* and *Love*, taken in combination or alone, do not disclose or suggest, at least, the step of identifying

a change in data transfer and in response to the change in the data transfer, changing the manner in which power control commands are to be sent, as recited in claim 1.

In view of the above, Applicants respectfully submit that claim 10 recites subject matter that is neither disclosed nor suggested in the combination *Behtash, Gilhousen* and *Love*.

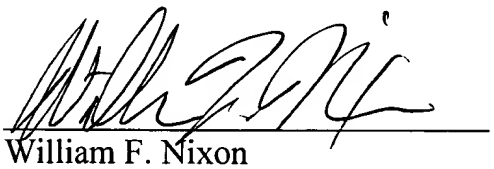
Applicants submit that *Wheatley, Behtash, Gilhousen, Padovani, Li* and *Love*, when viewed either singly or as combined as proposed in the Office Action, fail to disclose or suggest several limitations of the claimed invention, as discussed above. Thus, Applicant submits that certain clear and important distinctions exist between the cited prior art and the claimed invention. Applicant submits that these distinctions are more than sufficient to render the claims of the invention unanticipated by and unobvious in view of the prior art. It is therefore respectfully requested that claims 1-8 and 10-13 be found allowable, and the application passed to issue.

Applicants further submit that new claims 14-45 recite subject matter that is distinct over the cited prior art. New claims 14-45 should be allowed at least for the reasons discussed above.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Replacement Drawings (5 sheets)
Petition for Extension of Time
Additional Claim Fee Transmittal